SALMON RECOVERY IN THE DOSEWALLIPS RIVER

Factors Limiting Salmon Recovery: Harvest, Hatcheries, and Habitat What is Being Done?

June 2007

Salmon Recovery Planning

Puget Sound Chinook and Hood Canal summer chum salmon were listed as threatened under the federal Endangered Species Act (ESA) in 1999 following long-term declines in population numbers. The State of Washington adopted Salmon Recovery Plans for both species in 2006.

The goal of salmon recovery is to halt or reverse the decline of a population and to remove or reduce threats to the population's survival to ensure self-sustaining harvestable salmon runs.

What are Limiting Factors?

The State of Washington and local Native American tribes co-manage the state's salmon resources. The co-managers have identified three primary factors that contributed to the decline of Chinook and summer chum salmon in Puget Sound and that limit the ability of salmon populations to recover. These limiting factors are **harvest, hatcheries, and habitat**.

Harvest

Data suggests that in the 1980s, recreational and commercial fishing contributed to the depletion of salmon populations in Hood Canal and the rest of Puget Sound. During that time, commercial fishing in Hood Canal was managed with emphasis on the Chinook produced by state hatcheries on the Skokomish River and at Hoodsport. Natural stocks were designated as "secondary" management stocks under this management program and were susceptible to over-harvesting as by-catch.

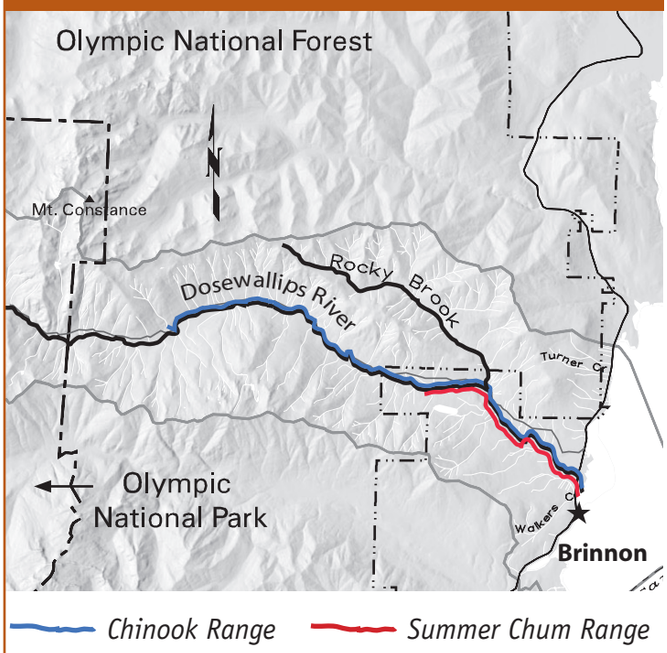
What is being done?

The co-managers have instituted new harvest management programs to allow more fish to escape harvest and return to rivers to spawn. Salmon fishing seasons are set by reviewing the pre-season forecast of abundance and then designing fisheries that open in areas and during times when healthy stocks predominate and weak stocks are relatively unaffected. Harvest activities are also timed to target hatchery fish rather than naturally-spawning fish.

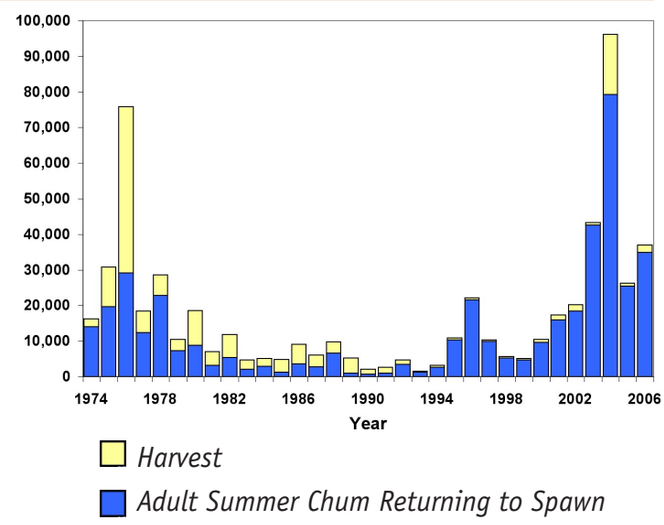
Hatcheries

Hatcheries are designed to produce fish for harvest or to help recover natural populations. However, artificial production in hatcheries is known to pose potential risks to wild salmon and steelhead populations. Hatchery adults that do not return to the hatchery, but stray onto natural spawning grounds, may interbreed with natural adults and reduce the fitness of the population resulting in lower numbers of returning fish. They may also compete with or displace natural adults from favorable spawning areas, and produce juveniles that could compete with natural juveniles for food and space in freshwater or estuarine areas.

Range of Chinook and Summer Chum Salmon in the Dosewallips River



Size of Hood Canal Summer Chum Run, 1974 - 2006



What is being done?

Hatchery management has evolved since the 1980s, and programs are now designed to minimize the potential risks posed to natural stocks. Hatchery supplementation in Hood Canal includes:

Summer Chum Salmon: Supplementation programs that were started since 1992 for summer chum on several Hood Canal streams appear to have succeeded in boosting population numbers. Supplementation programs that have reached their predetermined

maximum durations or that have met their goals for naturally spawning summer chum have been completed and are now monitored.

Chinook Salmon: Hatcheries are utilized in selected, limited locations to limit the exposure of natural stocks to potential risks. A Chinook supplementation program has been underway on the Hamma Hamma River since 1995, but the numbers of Chinook returning to the river have been modest. The co-managers are trying to figure out how to improve the success of this Chinook supplementation program before attempting Chinook supplementation programs on other streams.

Steelhead: A new steelhead supplementation experiment was initiated this year in Hood Canal: supplementation will occur on the Duckabush River, Skokomish River, and Dewatto River while the Dosewallips River, Tahuya River, and Big Beef Creek will be monitored as controls. The Hood Canal Steelhead Project represents a major partnership effort between NOAA Fisheries, Native American tribes, State and Federal agencies, community groups, and non-profits, as well as including the participation of many watershed-level volunteers.

Habitat

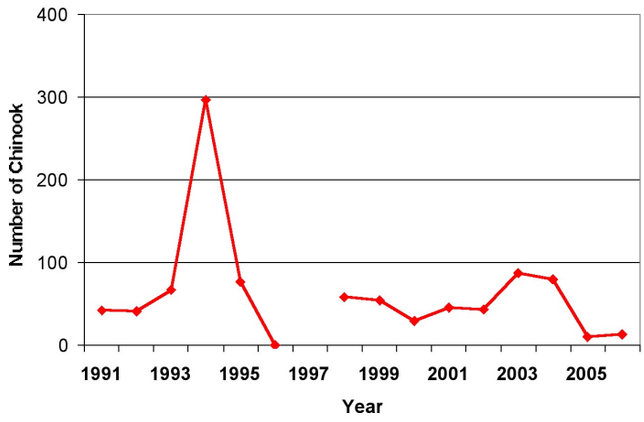
All salmon species require specialized habitats at different times for different life stages:

- Adequate stream flow and water quality
- Ample and stable spawning gravels
- Instream structure in the form of large woody debris and/or large boulders
- Pools
- A functional riparian zone
- Estuarine, salt marsh, eelgrass and shallow water nearshore habitat.

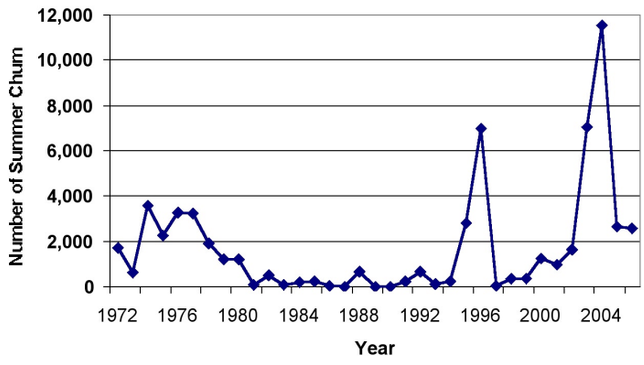
In addition to basin-wide problems, such as US Highway 101 and US Forest Service Roads, that have contributed to habitat loss and degradation throughout Hood Canal, localized factors in the Dosewallips River include:

- Riprap
- Dike construction
- Channelization
- Large woody debris removal
- Splash dam operation
- Conversion of floodplain to pastureland and residential development
- Logging of mature riparian forests

Number of Adult Chinook Salmon Returning to the Dosewallips River



Number of Adult Summer Chum Salmon Returning to the Dosewallips River



Source: Washington State Department of Fish and Wildlife Salmonid Stock Inventory (SaSI)

What is being done?

The salmon recovery plans for Chinook and summer chum that were developed in response to the ESA listings have focused on habitat actions. Responsibility for land use activities that may impact salmon and steelhead habitat rests largely with land use policy under county and city jurisdictions. The recovery plans for Chinook salmon and summer chum salmon provide a suite of recommendations for local land use governance and for specific, voluntary habitat projects.

The state Salmon Recovery Funding Board is one source of funding for local governments and non-profit organizations to conduct voluntary habitat projects.

Update on Steelhead

On May 7, 2007, the National Oceanic & Atmospheric Administration (NOAA) Fisheries Service announced it is listing steelhead in Puget Sound, including Hood Canal streams, as "threatened" under the federal Endangered Species Act.

Habitat loss has been identified as a factor for the decline of steelhead. Habitat improvements to benefit threatened Puget Sound Chinook and Hood Canal summer chum will also benefit Puget Sound steelhead, as they have similar habitat requirements.

The Hood Canal Coordinating Council is a Watershed-Based Council of Governments. It was established in 1985 in response to community concerns about water quality problems and related natural resource issues in the watershed. Learn more at www.hccc.wa.gov.